differences between invasive post-PCI FFR and Planner FFRCT in vessels with low and high calcium burden were 0.03 ± 0.06 versus 0.01 ± 0.07 ($P = 0.192$). Likewise, there was no statistically significant difference in the accuracy of the FFRCT Planner stratified by low or high calcium score (0.02 ± 0.06 vs 0.01 ± 0.07, $P = 0.526$).

CONCLUSION The FFRCT Planner demonstrated high accuracy and precision to predict post-PCI FFR independent of the amount and burden of calcification. These results support the application of the FFRCT Planner in calcific lesions.

CATEGORIES IMAGING AND PHYSIOLOGY: Physiologic Lesion Assessment

TCT-359

Treatment Effect of Primary Percutaneous Coronary Intervention on In-Hospital Outcomes of Active Cancer Patients Presenting With ST-Elevation Myocardial Infarction

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BACKGROUND Primary percutaneous coronary intervention (pPCI) is the optimal strategy for coronary revascularization in patients presenting with ST-segment elevation myocardial infarction (STEMI). However, there are limited data on the utility of pPCI for STEMI in patients with active cancer, both in terms of treatment rates and efficacy, compared with those without cancer.

METHODS All STEMI hospitalizations between 2004 and 2015 from the National Inpatient Sample were retrospectively analyzed and stratified by the presence or absence of prevalent current cancer types. We compared the rates of pPCI within each study group as well as the average treatment effect (ATE) of pPCI on in-hospital outcomes.

RESULTS Of 1,870,815 STEMI patients, 38,932 (2.1%) had a prevalent current cancer diagnosis (hematologic: 11,251 [28.9% of all cancers], breast: 4,675 [12.0%], lung: 9,538 [24.5%], colon: 3,749 [9.6%], and prostate: 9,719 [25.0%]). Patients with current cancer were less likely to receive pPCI than those without cancer (from 54.2% for lung cancer to 70.6% for hematologic vs 82.3% for no cancer), and those who underwent pPCI in the cancer groups were younger, less comorbid, and more critically unwell. The ATE of pPCI was strongly protective for major adverse cardiovascular and cerebral events (MACCEs) and mortality, with lower adjusted probabilities of MACCEs and all-cause mortality, in the cancer groups as the no cancer group, without an increase in probabilities of major bleeding or acute stroke in any of the study groups, except in colon cancer patients who had a higher risk of stroke. (Full coefficients to be presented in meeting due to limit on word count.)

CONCLUSION pPCI is underused in STEMI patients with current cancer despite its significant reduction of in-hospital all-cause mortality and MACCEs that is comparable with patients without cancer. pPCI was not associated with an increase in the risk of in-hospital major bleeding or acute stroke, although further work is required to assess the long-term benefit and safety of pPCI in this high-risk group.

CATEGORIES CORONARY: Acute Myocardial Infarction

TCT-360

Comparison of Outcomes Using an Overexpanded Under-sized Versus Nominal-Sized SAPIEN 3 Ultra Transcatheter Heart Valve in Patients With Borderline Annulus Area Based on Computed Tomographic Angiography

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BACKGROUND Appropriate transcatheter heart valve (THV) sizing is important to minimize paravalvular leak (PVL) and other periprocedural complications during transcatheter aortic valve replacement (TAVR). The balloon-expandable SAPIEN 3 Ultra (S3U, Edwards Lifesciences) THV is available in 4 sizes with nominal sizing recommendations based on annular area ranges. In high-risk anatomy patients with borderline areas that fall between 2 valve sizes, choosing the undersized THV and overexpanding the balloon may be preferable to nominal sizing. However, clinical outcomes and echocardiographic (transthoracic echocardiography [TTE]) data are unknown.

METHODS Nine hundred fifty-eight consecutive patients with severe aortic stenosis who underwent TAVR with S3U at 3 high-volume centers within Northwell Health between January 2017 and December 2020 were retrospectively reviewed. The annulus area was measured from contrast-enhanced multidetector computed tomography using 3Mensio and TeraRecon postprocessing software systems. Patients were included if they had borderline annulus areas as follows: 330 to 360 mm^2 (20 mm + 2 cc vs 23 mm), 420 to 460 mm^2 (23 mm + 2 cc vs 26 mm), and 530 to 590 mm^2 (26 mm + 3 cc vs 29 mm).

RESULTS Three hundred thirty-six patients were identified with 146 (44%) overexpanded and undersized and 190 (56%) nominal-sized THVs. In-hospital complication rates were not significant with aortic dissection in 1 patient (0% vs 0.5%, $P = .38$). The pacemaker placement rate was numerically higher in the nominal-sized group (11.6% vs 18.4%, $P = 0.09$). At 1 month, TTE showed slightly higher mean gradients in the undersized group (12.7 ± 5.2 mm Hg vs 11.3 ± 4.3 mm Hg, $P = 0.008$) with a similar aortic valve area (1.59 ± 0.46 cm^2 vs 1.70 ± 0.54 cm^2, $P = 0.13$). There was milder PVL in the undersized group (48.5% vs 30.3%, $P = 0.003$) but no difference in ≥ moderate PVL (6% vs 4.8%, $P = 0.64$). There was no significant difference in the 1-year TTE or in mortality (0.7% vs 2.6%, $P = 0.18$; 0.1% vs 0.06%, $P = 0.25$) and New York Heart Association class (I/II: 94.8% vs 98.3%, III/IV: 5.1% vs 1.7%, $P = .22$; 96% vs 96.5%, 4% vs 3.5%, $P = 0.86$) at 1 month and 1 year.

CONCLUSION In patients with a borderline annulus area, overinflating an undersized S3U THV provides similar TTE parameters and clinical outcomes with a trend to reduction in pacemaker rates and aortic root injury compared with nominal sizing.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

TCT-361

Clinical Outcomes in Patients Undergoing Percutaneous Coronary Intervention Treated With Colchicine

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BACKGROUND The central role of inflammation in the pathogenesis of coronary artery disease (CAD) as well as that resulting from treatment with percutaneous coronary intervention (PCI) is increasingly recognized. The effect of colchicine in attenuating peri-PCI inflammation remains unknown. This meta-analysis investigated the efficacy and safety of adding colchicine to standard medical treatment in patients undergoing PCI for secondary prevention of CAD.

METHODS The Web of Science, Embase, PubMed, Ovid, Cochrane Central Register of Controlled Trials, and ClinicalTrials.gov databases (inception to May 31, 2021) were searched. Studies assessing the efficacy and safety of colchicine in patients undergoing PCI were included. Data were pooled by meta-analysis using a random-effects model.

RESULTS Of 1,053 unique reports identified, 12 studies following 7,235 patients were included. No differences were observed between patients treated with colchicine compared with those treated without colchicine in terms of all-cause death (odds ratio [OR]: 1.1; 95% confidence interval [CI]: 0.72-1.56; $I^2 = 0\%$), cardiovascular death (OR: 0.98; 95% CI: 0.42-2.28; $I^2 = 14.2\%$), and coronary revascularization (OR: 0.64; 95% CI: 0.28-1.42; $I^2 = 49.3\%$). However, patients treated with colchicine showed a lower risk of stroke (OR: 0.33; 95% CI: 0.15-0.72, $I^2 = 0\%$) and a trend toward a lower risk of myocardial infarction